



AMENDMENTS TO THE CLAIMS

(Currently Amended) A method for producing a peptide having three or more amino acid residues, comprising:

forming the peptide having three or more amino acid residues with an enzyme or enzyme-containing substance,

wherein the enzyme or enzyme-containing substance has an ability to use as substrates an amine component having two or more amino acid residues and a carboxy component, to form a peptide having one more peptide bond than the amine component;

wherein said carboxy component is an amino acid ester or an amino acid amide;

wherein said amine component is selected from the group consisting of an unprotected peptide having two or more amino acid residues, a C-protected peptide having two or more amino acid residues, and a peptide having two or more amino acid residues and having a C-terminal amine in place of an amino acid;

wherein said carboxy component has an unprotected amino group; and

wherein said peptide having three or more amino acid residues contains an amino acid residue derived from said carboxy component at the N-terminus thereof; and

wherein the enzyme or enzyme in said enzyme-containing substance is selected from the group consisting of

a protein having an amino acid sequence consisting of amino acid residues numbers 21 to 619 of an amino acid sequence described in SEQ ID NO: 12,

a protein having an amino acid sequence including substitution, deletion, insertion, and/or addition of one or to ten of amino acids in the amino acid sequence consisting of amino acid residues 21 to 619 of the amino acid sequence described in SEQ ID NO: 12,

a protein having an amino acid sequence described in SEQ ID NO: 12,

a protein containing a mature protein region, the protein having an amino acid sequence including substitution, deletion, insertion, and/or addition of one or to ten of amino acids in the amino acid sequence described in SEQ ID NO: 12,

a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11,

a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence complementary to the nucleotide sequence consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and encodes a protein that has a peptide-forming activity, wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS,

a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide consisting of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11, and

a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence complementary to the nucleotide sequence consisting of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and encodes a protein that has a peptide-forming activity, wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS.

2. – 5. (Canceled)

6. (Previously Presented) The method for producing a peptide according to claim 1, wherein said enzyme is a protein selected from the group consisting of:

a protein having an amino acid sequence consisting of amino acid residues numbers 21 to 619 of an amino acid sequence described in SEQ ID NO: 12, and

a protein having an amino acid sequence including substitution, deletion, insertion, and/or addition of one or to ten of amino acids in the amino acid sequence consisting of amino acid residues 21 to 619 of the amino acid sequence described in SEQ ID NO: 12.

7. (Canceled)

8. (Previously Presented) The method for producing a peptide according to claim 1, wherein said enzyme is a protein selected from the group consisting of:

a protein having an amino acid sequence described in SEQ ID NO: 12, and

a protein containing a mature protein region, the protein having an amino acid sequence including substitution, deletion, insertion, and/or addition of one or to ten of amino acids in the amino acid sequence described in SEQ ID NO: 12.

9. (Previously Presented) The method for producing a peptide according to claim 1, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

10. (Canceled)

11. (Previously Presented) The method for producing a peptide according to claim 1, wherein said enzyme is a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide selected from the group consisting of:

a polynucleotide consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11, and

a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence complementary to the nucleotide sequence consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and encodes a protein that has a peptide-forming activity,

wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS.

12. (Canceled)

13. (Previously Presented) The method for producing a peptide according to claim 1, wherein said enzyme is a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide selected from the group consisting of:

a polynucleotide consisting of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11, and

a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence complementary to the nucleotide sequence consisting of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and encodes a protein that has a peptide-forming activity,

wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS.

14. (Previously Presented) The method for producing a peptide according to claim 1, wherein the carboxy component comprises at least one amino acid ester selected from the group consisting of an L-alanine ester, a glycine ester, an L-threonine ester, an L-tyrosine ester and a D-alanine ester.

15. (Previously Presented) The method for producing a peptide according to claim 6, wherein said enzyme is a protein having the amino acid sequence consisting of amino acid residues 21 to 619 of SEQ ID NO: 12.

16. (Previously Presented) The method for producing a peptide according to claim 6, wherein said enzyme is a protein having an amino acid sequence including substitution, deletion, insertion, and/or addition of one to ten amino acids in the amino acid sequence consisting of amino acid residues 21 to 619 of SEQ ID NO: 12.

17. (Previously Presented) The method for producing a peptide according to claim 8, wherein said enzyme is a protein having the amino acid sequence consisting of SEQ ID NO: 12.

18. (Previously Presented) The method for producing a peptide according to claim 8, wherein said enzyme is a protein containing a mature protein region, the protein having an

amino acid sequence including substitution, deletion, insertion, and/or addition of one to ten amino acids in the amino acid sequence of SEQ ID NO: 12.

19. (Previously Presented) The method for producing a peptide according to claim 11, wherein said enzyme is a protein which is a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11.

20. (Previously Presented) The method for producing a peptide according to claim 11, wherein said enzyme is a protein which is a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence that is complementary to the nucleotide sequence consisting of nucleotides 121 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and said protein that has a peptide-forming activity,

wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS.

21. (Previously Presented) The method for producing a peptide according to claim 13, wherein said enzyme is a protein which is a product of a microbe that has been transformed so as to express a protein encoded by a polynucleotide that consists of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11.

22. (Previously Presented) The method for producing a peptide according to claim 13, wherein said enzyme is a protein which is a product of a microbe that has been transformed

so as to express a protein encoded by a polynucleotide that hybridizes with a polynucleotide consisting of a nucleotide sequence that is complementary to the nucleotide sequence consisting of nucleotides 61 to 1917 of the nucleotide sequence of SEQ ID NO: 11 under stringent conditions, and said protein contains a mature protein region having a peptide-forming activity,

wherein said stringent conditions comprise hybridizing at 60°C in a salt concentration corresponding to 0.1×SSC and 0.1% SDS.

23. (New) The method for producing a peptide according to claim 11, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

24. (New) The method for producing a peptide according to claim 13, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

25. (New) The method for producing a peptide according to claim 19, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

26. (New) The method for producing a peptide according to claim 20, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

27. (New) The method for producing a peptide according to claim 21, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.

28. (New) The method for producing a peptide according to claim 22, wherein the microbe is a microbe belonging to the genus *Empedobacter* or belonging to the genus *Sphingobacterium*.



SUPPORT FOR THE AMENDMENTS

Claim 2-5, 7, 10, and 12 were previously canceled.

Claim 1 has been amended.

Claims 23-28 have been added.

Support for the amendment of Claim 1 is provided by original and previously presented Claims 1, 6, 8, 11, and 13. Support for new Claims 23-28 is provided by original and previously presented Claims 1 and 9, and by the specification at page 4, lines 10-15.

No new matter has been added by the present amendment.